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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,494	08/27/2003	Luc Van Puymbroeck	1785-3631.1US (564-9791-U	5871

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EXAMINER	
GAY, JENNIFER HAWKINS	
ART UNIT	**PAPER NUMBER**
3672	

DATE MAILED: 07/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/649,494	PUYMBROECK ET AL.	
	Examiner	Art Unit	
	Jennifer H. Gay	3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22-41 and 47-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *33,34,50 and 51* is/are allowed.

6)☒ Claim(s) *22,24-26,31,32,35,36,38,39,47-49,52 and 53* is/are rejected.

7)☒ Claim(s) *23,27-30,37,40 and 41* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/27/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. In response to applicants request that the reference entitled "Sponge Coring" cited on the Information Disclosure Statement filed 27August 2003 be considered and made of record, the examiner notes that a copy of this references has not been located in the file thus cannot be considered. The examiner apologizes for not making a note of this in the previous Office Action. The reference will be considered upon submission to the Office.

Claim Objections

2. Claims 22 and 50 are objected to because of the following informalities: claim 22, "an" should be changed to --the-- in line 8 and claim 50, --a-- should be added before "tubular" in line 2. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 22, 24, 26, and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Park et al. (US 4,502,553).

Regarding claim 22: Park et al. discloses a sponge liner for use in a sponge core barrel assembly **10** where the assembly includes an inner barrel assembly **18** formed of a first material and having a bore extending therethrough (Figure 1). The sponge liner includes the following features:

- A tubular sleeve **52** having a longitudinal axis formed of aluminum and having an outer cylindrical surface sized and configured to be slidably disposed in the bore of the inner barrel assembly and an inner

cylindrical surface with a wall thickness therebetween. The tubular sleeve further includes at least one groove, the groove formed in an inner cylindrical surface thereof and extending into the thickness of the wall. Reinforcing members 56 which are an integral part of the inner surface of the tubular sleeve define the thickness of the wall.

- An annular sponge layer **50** formed of a material adapted to absorb at least one specified reservoir fluid and including an interior cavity (Figure 3) and an outer cylindrical surface secured to the inner cylindrical surface of the tubular sleeve and extending into the at least one groove.

Regarding claim 24: The cross-sectional shape of the at least one groove is generally dovetail shaped (Figure 2).

Regarding claim 26: The tubular sleeve includes a plurality of perforations **58**.

Regarding claim 52: The at least one groove extends longitudinally along the inner cylindrical surface of the tubular sleeve.

5. Claim 47 is rejected under 35 U.S.C. 102(b) as being anticipated by Park (US 4,312,414).

Park discloses a method of constructing an inner barrel assembly of a sponge core barrel that involves securing a layer of sponge material **22** adapted to absorb at least one specified reservoir fluid directly to an interior cylindrical surface of the inner barrel assembly **20** prior to the disposition of the core sample therein.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 25, 31, 32, 48, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. in view of Radford (US 5,107,942).

Regarding claim 25: Park et al. discloses all of the limitations of the above claims except for the first and second materials being identical and thus having the same rate of thermal expansion due to Park et al. not specifically indicating what the first material is.

Radford discloses a core barrel drilling apparatus. Radford further teaches that inner tubes or barrels formed of aluminum are well known and used in the art (3:46-49).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have formed the inner barrel of Park et al. of aluminum as taught by Radford as aluminum inner barrels would have been considered well known in the art and this would have resulted in the inner barrel and tubular sleeve being of the same material. Forming the inner barrel and the tubular sleeve of the same material would have eliminated the chance of one of the barrel or the sleeve expanding or contracting differently thus resulting in deformations in the sleeve and the possible cracking of the core sample.

Regarding claims 31, 32: Park et al. discloses a sponge liner for use in a sponge core barrel assembly **10** where the assembly includes an inner barrel assembly **18** formed of a first material and having a bore extending therethrough (Figure 1). The sponge liner includes the following features:

- A tubular sleeve **52** formed of aluminum and having an inner cylindrical surface and an outer cylindrical surface sized and configured to be slidably disposed in the bore of the inner barrel assembly.
- An annular sponge layer **50** formed of a material adapted to absorb at least one specified reservoir fluid and including an interior cavity (Figure 3) and an outer cylindrical surface secured to the inner cylindrical surface of the tubular sleeve.

Park et al. discloses all of the limitations of the above claims except for the first and second materials being identical and thus having the same rate of thermal expansion due to Park et al. not specifically indicating what the first material is.

Radford discloses a core barrel drilling apparatus. Radford further teaches that inner tubes or barrels formed of aluminum are well known and used in the art.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have formed the inner barrel of Park et al. of aluminum as taught by Radford as aluminum inner barrels would have been considered well known in the art and this would have resulted in the inner barrel and tubular sleeve being of the same material. Forming the inner barrel and the tubular sleeve of the same material would have eliminated the chance of one of the barrel or the sleeve expanding or contracting differently thus resulting in deformations in the sleeve and the possible cracking of the core sample.

Regarding claim 48, 49: Park et al. discloses a method for core drilling using an apparatus that includes an inner barrel assembly **18** and at least one sponge liner disposed in the inner barrel assembly. The liner includes a layer of sponge material **50** secured to an interior cylindrical surface of a tubular sleeve **52**. The method involves the steps of constructing the inner barrel assembly of a first material and the tubular sleeve of aluminum.

Park et al. discloses all of the limitations of the above claims except for the first and second materials being identical and thus having the same rate of thermal expansion due to Park et al. not specifically indicating what the first material is.

Radford discloses a core barrel drilling apparatus. Radford further teaches that inner tubes or barrels formed of aluminum are well known and used in the art.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have formed the inner barrel of Park et al. of aluminum as taught by Radford as aluminum inner barrels would have been considered well known in the art and this would have resulted in the inner barrel and tubular sleeve being of the same material. Forming the inner barrel and the tubular sleeve of the same material would have eliminated the chance of one of the barrel or the sleeve expanding or contracting differently thus resulting in deformations in the sleeve and the possible cracking of the core sample.

8. Claim 35, 36, 38, 39, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. in view of Radford et al.

Regarding claim 35: Park et al. discloses an integrated sponge barrel for use in a sponge core barrel assembly **10**. The sponge barrel includes the following features:

- At least one inner tube section **52** having an in an inner cylindrical surface.
- An annular sponge layer **50** formed of a material adapted to absorb at least one specified reservoir fluid and including an interior cavity (Figure 3) and an outer cylindrical surface secured to the inner cylindrical surface of the at least one inner tube section.

Park et al. discloses all of the limitations of the above claims except for the inner tube section being sized and configured for direct disposition in an outer barrel assembly without a surrounding inner barrel.

Radford et al. discloses a sponge core barrel assembly similar to that of Park et al. Radford et al. further teaches at least one inner tube section **26** that is sized and configured for direct disposition in an outer barrel assembly **22** without a surrounding inner barrel.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the core barrel assembly of Park et al. such that the at least one inner tube section was sized and configured for direct disposition in an outer barrel assembly without a surrounding inner barrel as taught by Radford et al. in order to have reduced the number of different parts of the assembly thus reducing the chances of and frequency of the assembly failing.

Regarding claim 36: The assembly of Park et al. further includes at least one groove, the groove formed between the reinforcing members **56**, formed in an inner cylindrical surface of the tube section where the at least one groove has a cross-sectional shape. The annular sponge layer extends into the at least one groove (Figure 2).

Regarding claim 38: The cross-sectional shape of the at least one groove is generally dovetail shaped (Figure 2).

Regarding claim 39: The tubular sleeve includes a plurality of perforations **58**.

Regarding claim 53: The at least one groove extends longitudinally along the inner cylindrical surface of the tubular sleeve.

Allowable Subject Matter

9. Claims 33, 34, 50, and 51 are allowed.

10. Claims 23, 27-30, 37, 40, and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. In view of applicant's amendment, the objections to the drawings and specification have been withdrawn.

12. Applicant's arguments with respect to claim 47 have been considered but are moot in view of the new ground(s) of rejection.

13. Applicant's arguments, see page 46, filed 20 June 2005, with respect to claims 23, 27-30, 33, 34, 37, 40, 41, 50, and 51 have been fully considered and are persuasive. The rejection of claims 23, 27-30, 33, 34, 37, 40, 41, 50, and 51 has been withdrawn. The examiner does note however that the rejection of claims 29, 30, 33, 34, 40, 41, 50, and 51 has been withdrawn merely because Park does not teach a webbing layer "longitudinally" disposed in the sponge material. The examiner considers Park to teach the remaining limitations of the above claims.

14. Applicant's arguments filed 20 June 2005 have been fully considered but they are not persuasive.

Applicant has argued that Park et al. does not discloses at least one groove formed in an inner surface of a tubular sleeve. The examiner disagrees and notes that the reinforcing members define the "thickness" of the tubular sleeve, as they are an integral

part of the sleeve. Applicant has argued that the reinforcing members are formed "on the inner surface" of the sleeve thus arguing that the members do not define the "thickness" of the sleeve. However, it can be clearly seen in Figures 2 and 3 that the reinforcing members are a part of the sleeve not attached to the sleeve. Therefore, the reinforcing members form the "thickness" of the sleeve with the grooves being defined therebetween.

Applicant has argued that Radford cannot be combined with Park et al. because Radford is not directed to sponge coring and only discloses a single walled inner tube coring device. While applicant's assessment of the Radford reference is correct, the argument is moot as Radford was used merely to teach that it is well known in the art to form inner barrels form aluminum, claims 25, 31, 32, 48, and 49 and to teach an inner tube section being sized and configured for direct disposition in an outer barrel assembly without a surrounding inner barrel, claims 35, 36, 38, 39, and 53. Therefore, the fact that Radford does not teach a sponge coring barrel is not relevant to the rejection as Radford was applied under 35 USC 103 thus is not required to teach all of the claim limitations as if applied under 35 USC 102.

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Applicant has further argued that there is no motivation to combine Park et al. and Radford. The examiner notes that the motivation to combine the references can be found in that Radford teaches that it is well known in the art to form an inner barrel from aluminum. Further, the motivation provided by the examiner, "Forming the inner barrel and the tubular sleeve of the same material would have eliminated the chance of one of the barrel or the sleeve expanding or contracting differently thus resulting in deformations in the sleeve and the possible cracking of the core sample.", is considered general knowledge understood by one of ordinary skill in the art.

Further in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H. Gay whose telephone number is (571) 272-7029. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and Friday, 6:30-1:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer H Gay
Patent Examiner
Art Unit 3672

JHG
July 13, 2005